



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/696,708  
Applicant : Mark T. KEATING et al.  
Filed : 30 October 2003  
TC/A.U. : 1636  
Examiner : To be assigned

Docket No. : 2323-164  
Customer No. : 06449  
Confirmation No. : 7822

INFORMATION DISCLOSURE STATEMENT

Director of the United States Patent  
and Trademark Office  
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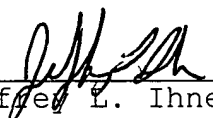
Dear Sir:

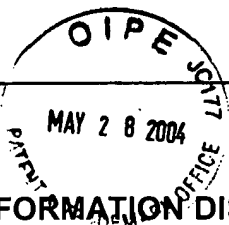
Under the provisions of 37 C.F.R. §§ 1.56, 1.97 and 1.98,  
Applicant submits herewith Form PTO-1449 listing publications  
that the Office may wish to consider in examination of the  
subject application.

Pursuant to 1.98(d), copies of the references are not  
included because they were previously submitted to the Office in  
prior application Serial No. 09/735,995, filed December 14, 2000,  
and to which priority is or has been claimed under 35 USC § 120.

Respectfully submitted,

By

  
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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

*Complete if Known*

Application Number	10/696,708
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Group Art Unit	1636
Examiner Name	

Sheet	1	of	4	Attorney Docket Number	2323-164
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## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
	AA	5,599,673		Keating et al.	02-04-1997

## **FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee of Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T <sup>6</sup>
		Office <sup>3</sup> Code	Number <sup>4</sup>	Kind <sup>5</sup> (if known)			

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<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code. <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached. AB indicates that only an English language abstract is attached.

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<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T <sup>2</sup>
	AB	Ackerman, M.J., M.D., Ph.D., "The Long QT Syndrome: Ion Channel Diseases of the Heart", <i>Mayo Clin. Proc.</i> 1998; 73:250-269			
	AC	Akimoto, K., et al., "Novel Missense Mutation (G601S) of HERG in a Japanese Long QT Syndrome Family", <i>HUMAN MUTATION</i> Supplement 1998; 1:S184-S186			
	AD	Babij, P., et al., "Inhibition of Cardiac Delayed Rectifier K <sup>+</sup> Current by Overexpression of the Long-QT Syndrome HERG G628S Mutation in Transgenic Mice", <i>Circ. Res.</i> 1998; 83(6):668-678			
	AE	Benson, D., et al., "Missense Mutation in the Pore Region of <i>HERG</i> Causes Familial Long QT Syndrome", <i>Circulation</i> May 15, 1996; 93(10):1791-1795			
	AF	Curran, M., et al., "A Molecular Basis for Cardiac Arrhythmia: <i>HERG</i> Mutations Cause Long QT Syndrome", <i>Cell</i> March 10, 1995; 80:795-803			
	AG	Dausse, E., et al., "A mutation in <i>HERG</i> Associated with Notched T Waves in Long QT Syndrome", <i>J. Mol. Cell Cardiol.</i> 1996; 28:1609-1615			
	AH	Fung, D., et al., "RsaI and MaeI intragenic RFLPs in the human <i>HERG</i> gene", <i>Clin. Genet.</i> 1998; 53:504			
	AI	Itoh, T., et al., "Genomic organization and mutational analysis of <i>HERG</i> , a gene responsible for familial long QT syndrome", <i>Hum. Genet.</i> 1998; 103:290-294			
	BA	Janse, M.J. and Wilde, A.A.M., "Molecular Mechanisms of Arrhythmias", <i>Rev. Port. Cardiol.</i> 1998; 17(Supl. II):41-46			
	BB	Jiang, C., et al., "Two long QT syndrome loci map to chromosomes 3 and 7 with evidence for further heterogeneity", <i>Nature Genetics</i> October 1994; 8:141-147			
	BC	Keating, M.T., MD, "Genetic Approaches to Cardiovascular Disease Supravalvular Aortic Stenosis, Williams Syndrome, and Long-QT Syndrome", <i>Circulation</i> 1995; 92(1):142-147			
	BD	Keating, , M.T., "The Long QT Syndrome A Review of Recent Molecular Genetic and Physiologic Discoveries", <i>Medicine</i> 1996; 75(1):1-5			
	BE	Kupershmidt, S., et al., "A K <sup>+</sup> Channel Splice Variant Common in Human Heart Lacks a C-terminal Domain Required for Expression of Rapidly Activating Delayed Rectifier Current", <i>J. Biol. Chem.</i> Oct. 16, 1998 273(42):27231-27235			
	BF	Lazzara, R., "Mechanisms and management of congenital and acquired long QT syndromes", <i>Arch. Mal. Coeur Vass.</i> 1996; 89 (Spec. No. 1)51-55			
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	BH	Locati, E.H., et al., "Age- and Sex-Related Differences in Clinical Manifestations in Patients With Congenital Long-QT Syndrome", <i>Circulation</i> June 9, 1998; 97(22):2237-2244			
	BI	London, B., et al., "Two Isoforms of the Mouse <i>Ether-a-go-go</i> -Related Gene Coassemble to Form Channels With Properties Similar to the Rapidly Activating Component of the Cardiac Delayed Rectifier K <sup>+</sup> Current", <i>Circ. Res.</i> Nov. 1997; 81(5):870-878			
	BJ	McDonald, T., et al., "A minK-HERG complex regulates the cardiac potassium current <i>I<sub>Kr</sub></i> ", <i>Nature</i> July 17, 1997; 388:289-292			
	BK	Roden, D.M., et al., "Multiple Mechanisms in the Long-QT Syndrome", <i>Circulation</i> 1996; 94(8):1996-2012			
	CA	Roden, D.M., et al., "Recent Advances in Understanding the Molecular Mechanisms of the Long QT Syndrome", <i>J. Cardiovasc. Electrophysiol.</i> Nov. 1995; 6(11):1023-1031			
	CB	Sanguinetti, M.C., et al., "A Mechanistic Link between an Inherited and an Acquired Cardiac Arrhythmia: <i>HERG</i> Encodes the <i>I<sub>Kr</sub></i> Potassium Channel", <i>Cell</i> April 21, 1995; 81:299-307			
	CC	Satler, C., et al., "Multiple different missense mutations in the pore region of <i>HERG</i> in patients with long QT syndrome", <i>Hum. Genet.</i> 1998; 102:265-272			
	CD	Satler, C., et al., "Novel Missense Mutation in the Cyclic Nucleotide-Binding Domain of <i>HERG</i> Causes Long QT Syndrome", <i>American Journal of Medical Genetics</i> 1996; 65:27-35			
	CE	Schönherr, R., et al., "Molecular determinants for activation and inactivation of <i>HERG</i> , a human inward rectifier potassium channel", <i>Journal of Physiology</i> 1996; 493.3:635-642			
	CF	Schulze-Bahr, E., et al., "Autosomal recessive long-QT syndrome (Jervell Lange-Nielsen syndrome) is genetically heterogeneous", <i>Hum. Genet.</i> 1997; 100:573-576			
	CG	Schwartz, P., et al., "Long QT Syndrome Patients With Mutations of the <i>SCN5A</i> and <i>HERG</i> Genes Have Differential Responses to Na <sup>+</sup> Channel Blockade and to Increases in Heart Rate", <i>Circulation</i> Dec. 15, 1995; 92(12):3381-3386			
	CH	Splawski, I., et al., "Genomic Structure of Three Long QT Syndrome Genes: <i>KVLQT1</i> , <i>HERG</i> and <i>KCNE1</i> ", <i>Genomics</i> 1998; 51:86-97			
	CI	Tanaka, T., et al., "Four Novel <i>KVLQT1</i> and Four Novel <i>HERG</i> Mutations in Familial Long-QT Syndrome", <i>Circulation</i> Feb. 4, 1997; 95(3):565-567			
	CJ	Trudeau, M., et al., " <i>HERG</i> , a Human Inward Rectifier in the Voltage-Gated Potassium Channel Family", <i>Science</i> July 7, 1995; 269:92-95, 1087			
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	CK	Vincent, G.M. MD, "The Molecular Genetics of The Long QT Syndrome: Genes Causing Fainting and Sudden Death", <i>Annu. Rev. Med.</i> 1998; 49:263-74			
	CL	van den Berg, M., et al., "The long QT syndrome: a novel missense mutation in the S6 region of the KVLQT1 gene", <i>Hum. Genet.</i> 1997; 100:356-361			
	DA	Wang, Q., et al., "Genetics, molecular mechanisms and management of long QT syndrome", <i>Ann. Med.</i> 1998; 30:58-65			
	DB	Wang, Q., et al., "The molecular basis of long QT syndrome and prospects for therapy", <i>Mol. Med. Today</i> Sept. 1998; 4(9):382-388			
	DC	Wang, Q., et al., "Molecular genetics of long QT syndrome from genes to patients", <i>Curr. Opin. Cardiol.</i> 1997; 12:310-320			
	DE	Warmke, J.W. et al., "A family of potassium channel genes related to <i>eag</i> in <i>Drosophila</i> and mammals" <i>Proc. Natl. Acad. Sci. USA</i> 91:3439-3442 (1994)			
	DF	Wattanasirichaigoon, D. and Beggs, A.H., "Molecular genetics of long-QT syndrome", <i>Curr. Opin. Pediatr.</i> 1998; 10:628-634			
	DG	Zareba, W., et al., "Influence of the Genotype on the Clinical Course of the Long-QT Syndrome", <i>N. Eng. J. Med.</i> Oct. 1998; 339(14):960-965			
	DH	Zhou, Z., et al., "HERG Channel Dysfunction in Human Long QT Syndrome", <i>J. Biol. Chem.</i> Aug. 14, 1998; 273(33):21061-21066			
	DI	Zou, A., et al., "A mutation in the pore region of HERG K <sup>+</sup> channels expressed in <i>Xenopus</i> oocytes reduces rectification by shifting the voltage dependence of inactivation", <i>Journal of Physiology</i> , 1998; 509.1:129-137			
	DJ	OMIM ENTRY 152427 - LONG QT SYNDROME, TYPE 2; LQT2 7pp.			
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